

## ON THE ALLEGED OCCURRENCE OF THE EARLY CRETACEOUS AMMONITE *SIMBIRSKITES* IN QUEENSLAND

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The two ammonite specimens that comprise the Australian records of the Early Cretaceous genus *Simbirskites* are reassessed. Formerly described as *S. morvenae* Whitehouse, they are re-identified here as Late Jurassic, *Galbanites galbanus* Buckman and *G. fasciger* Buckman. The Australian specimens were supposedly from Queensland, but are believed here to be exotic, brought from England probably in the late nineteenth century. Their limestone lithology contrasts with the local clastic sediments. They closely resemble the form and lithology of specimens from the Portland Stone of England. Furthermore they are associated with gastropods, *Leptomaria rugata* (Benett), and bivalves including *Laevitrigonia damoniana* (de Loriol) and oysters which are also comparable to Portland Stone forms. Simbirskitids are typically boreal in their distribution, occurring in mid-Hauterivian to Early Barremian deposits in northern Europe, parts of the USSR and North America. Most other austral occurrences have been previously discounted. The geographically isolated Australian occurrence now should be deleted from the record. □ *Late Jurassic, Early Cretaceous, ammonite, bivalve, gastropod, Portland Stone, Simbirskites, Galbanites, England, Queensland, Australia.*

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In the Queensland Museum type collection, I recognised a moderately large, English, Portland Stone ammonite in characteristic limestone preservation. On reading the label, I was surprised to discover that this was reputedly from the Queensland Early Cretaceous. A smaller ammonite and three large gastropod internal moulds have been artificially attached with cement to the umbilicus. The two ammonites were placed in *Simbirskites* (Whitehouse, 1926) without sighting the specimens (Bryan & Whitehouse, 1926). Whitehouse (1927) described the smaller, Queensland Museum (QM) F16438, as type of *S. morvenae* sp. nov.; the larger (QM F1270) was made paratype. The ammonites are re-identified here, the larger one as *Galbanites (Galbanites) galbanus* (Buckman), and the smaller one as *G. (G.) fasciger* (Buckman). The gastropods (QM F21078-21081) originally determined as *Leptomaria* (?) (Etheridge, 1909) are identified here as '*Leptomaria rugata* (Benett). In the matrix, Whitehouse (1927) identified fragments of '*Ostrea*' and '*Trigonia*'. The oyster may be *Liostrea* sp.; other undetermined oysters, possibly exogyrids, grew on the interior of the body chamber of the larger ammonite shell. The trigoniid shows an early commarginal ribbed phase, followed by later somewhat irregular tuberculation typical of *Laevitrigonia damoniana* (De Loriol, 1875).

'*Leptomaria rugata*, *Liostrea*, exogyrids and *L. damoniana* are present in the English Portland Stone; the last is restricted to it and French stratigraphic equivalents. Stratigraphically, the youngest occurrences of *Laevitrigonia* s.s. are undescribed specimens in the Berriasian of the Russian Platform, and close to the Jurassic-Cretaceous boundary in the Cinder Beds of southern England (Kelly, 1988). It is unknown in the Hauterivian. However, it is well known in the Late Jurassic of northern and western Europe, and is particularly common in the Portlandian/Tithonian Portland Limestones of southern England.

The composite specimen was originally acquired from a Mr Hurst or Mr Hunter (Rozefelds et al., 1990) and was catalogued in the Queensland Museum as D7710.12 in 1893. The cited locality is 'Victoria Downs, Morven' where extensive outcrops of the marine, Aptian, Roma Series, are placed in the Doncaster Member of the Wallumbilla Formation (Exon, 1971). However, despite detailed geological survey work in the area, no further *Simbirskites*, nor specimens of similar lithology have been collected (Day, 1969: 152).

Etheridge (1909) originally compared the ammonites to *Perisphinctes kayseri* Neumayr & Uhlig (1881), now recognised as *Simbirskites*, which occurs in the *seeleyi* zone, Hauterivian, of north

Germany (Rawson, 1971). Whitehouse (1926, 1927) initially appeared to accept a Queensland provenance. Whitehouse (1946: 3) intimated that the ammonites were exotic, stating 'a little uneasiness is felt about the locality record' and that preservation of the specimens was like that of simbirskitids of north Germany which last remark is not supported here. Whitehouse (1954: 9 footnote) reiterated his belief of an extra Australian provenance. This remark was supported by Day (1969: 152). Lithologies of the large German simbirskitids figured by Neumayr & Uhlig are ironstones (Rawson, 1971), whereas most other German occurrences are from paralic sandstones or offshore clay facies. Sediments of the Wallumbilla Formation are predominantly sandstones with minor mudstones, but the specimens, supposedly from Morven, are preserved as internal moulds in a pale creamy brown limestone with much bioclastic debris. The preservation exactly matches that of parts of the English Portland Stone.

The Simbirskitinae is a boreal group of Olcostephanidae, one of the youngest in the once widespread Perisphinctoidea. It is characteristic of the mid-Hauterivian to earliest Barremian of northern England, northern Europe, the Russian Platform, Spitsbergen and North America (Rawson, 1971). Possible Late Valanginian forerunners occur in Arctic Canada (Jeletzky & Kemper, 1988).

The Australian record of *Simbirskites*, discounted here, has been widely quoted, (Wright in Moore, 1957). Other records of simbirskitids outside the normal geographical range for the group were reviewed by Rawson (1971). Mexican (Burckhardt, 1912) and Himalayan forms (Uhlig, 1910), were re-identified (*Grayiceras*) (Spath, 1924). Leanza (1958) described four species of *Simbirskites* from Argentina, but these appear to be *Rogersites*. Kilian & Piroutet (1905) recorded *Simbirskites* from New Caledonia, but the record remains unsubstantiated (Whitehouse, 1926).

#### SYSTEMATICS

Class CEPHALOPODA  
Superfamily PERISPINCTOIDEA  
Steinmann, 1890

Family PERISPINCTIDAE Steinmann, 1890  
Subfamily DORSOPLANITINAE Arkell, 1950

#### *Galbanites* Buckman, 1922

*Type species. Galbanites galbanus* Buckman,

1922, Portland Stone, Haddenham, Buckinghamshire, England.

#### REMARKS

Arkell (in Moore, 1957) synonymized *Galbanites* and *Titanites* Buckman, 1921 but Wimbledon & Cope (1978) recognised *Galbanites* as distinct. The specimens described below as *Galbanites* have predominantly biplicate to triplicate ribbing, but lack the coarseness of the primaries which characterises *Galbanites* (*Kerberites*). The genus is widespread in the *okusensis* and *kerberus* Zones of southern England.

#### *Galbanites* (*Galbanites*) *galbanus*

Buckman, 1922 (Figs 1,2A,3)

- 1909 *Perisphinctes kayseri* Neumayr & Uhlig; Etheridge, p.239, pl.68 [larger specimen only; non Neumayr & Uhlig, 1881].  
1922 *Galbanites galbanus* Buckman, pl.355, figs A,B,C.  
1926 *Simbirskites* spp. Whitehouse, p.200 [larger specimen only].  
1927 *Simbirskites morvenae* sp.nov. Whitehouse, p.111, paratype only [non pl.16, fig. 1; non text fig. 5].  
1938 *Galbanites galbanus* Buckman; Roman, p.297.  
1946 *Simbirskites*; Whitehouse, p.8.  
1972 *Galbanites galbanus* Buckman; Clark, p.82.  
1974 *Galbanites galbanus* Buckman; Wimbledon, p.146, pl. 18.  
1978 *Galbanites galbanus* Buckman; Wimbledon & Cope, p. 184.  
1990 *Simbirskites morvenae* Whitehouse; Rozefelds et. al, p.701.

#### MATERIAL EXAMINED

HOLOTYPE: British Geological Survey, GSM47155, Haddenham Micritic Member (Blue and Cream Bed, Creamy Limestone), Portland Stone, works north of the railway station, Haddenham, Buckinghamshire, England (Buckman, 1922)

OTHER MATERIAL: QM F1270, originally catalogued as D7710.12 in 1893 and stated to be from Victoria Downs, Morven, Queensland. Donated by Mr Hurst or Mr Hunter. The provenance is believed here to be from the English Portland Stone.

#### DIAGNOSIS

Evolute perisphinctid with coarse biplicate to triplicate ribbing, branching just below mid-flank (Fig. 1). Whorl section rounded (Fig. 2A). Ribbing gently arched forward to rectiradiate, with only weak forward swing over the venter. Shell



FIG. 1. *Galbanites (Galbanites) galbanus* Buckman, 1922. Lateral view of internal mould of QM F1270 (larger specimen), showing QM F16438 (smaller specimen, *G. (G.) fasciger* Buckman) artificially attached to the umbilicus, together with four internal moulds of gastropods, QM F21078-21081, '*Leptomariu*' *rugatu* (Benett);  $\times 0.5$ . (See also Figs 2,3 for further detail).

septate up to a diameter of 330mm. Body chamber outer two thirds whorl; aperture not seen; suture in Fig. 3. Maximum diameter 365mm; septate diameter 244mm; maximum whorl height 112mm, width 85mm; no. of ribs 55 primary,  $133 \pm 2$  secondary.

#### REMARKS

The holotype of *Simbirskites morvenae* Whitehouse differs from the holotype of *Galbanites galbanus* Buckman by its larger size, and tendency towards triplicate as well as biplicate secondary ribs. It differs from *G. fasciger* by having rounded flanks, as opposed to flat sided, and the absence of fasciculation. *G. galbanus* occurs in the later *okusensis* and early to middle *kerberus*

zones of southern England (Wimbledon & Cope, 1978).

***Galbanites (Galbanites) fasciger* Buckman, 1923 (Fig. 1, centre; Fig. 2, B,C,D)**

1909 *Perisphinctes kayseri* Neumayr & Uhlig; Etheridge, 239, pl.68 [small specimen only; non Neumayr & Uhlig, 1881].

1923 *Galbanites fasciger* nov. Buckman, pl.451.

1926 *Simbirskites* spp. Whitehouse, p.200 [small specimen only].

1927 *Simbirskites morvenae* sp.nov. Whitehouse, p.111, pl.16, fig. 1; text fig. 5 only.

1946 *Simbirskites*; Whitehouse, p.8.

1972 *Galbanites fasciger* Buckman; Clark, p.82.



FIG. 2. A, *Galbanites (Galbanites) galbanus* Buckman, 1922, ventral aspect of QM F1270,  $\times 0.5$ ; B-D, *Galbanites (Galbanites) fasciger* Buckman, 1924; B, left lateral view, QM F16438,  $\times 1$ . (Holotype of *Simbirskites morvenae* Whitehouse, 1926); C, right lateral view of QM F16438,  $\times 1$ ; D, ventral view of QM F16438,  $\times 1$ .

1974 *Galbanites fasciger*, Buckman; Wimbledon, p.72.

1990 *Simbirskites morvenae* Whitehouse; Rozefelds et. al, p.701.

#### MATERIAL EXAMINED

HOLOTYPE: British Geological Survey, GSM37302, formerly S. Buckman Collection 295556, purchased 1924, 'Lower Witchett', Creamy Limestone, Portland Beds, Barrel Hill, Long Crendon, Buckinghamshire, England.

OTHER MATERIAL: QM F16438, cemented to umbilicus of QM F1270, information as for *G. galbanus* above.

#### DIAGNOSIS

Moderately involute perisphinctid (Fig. 2 B,C), with flattened, ventrally converging sides (Fig. 2D). Ribs straight and prorsiradiate, fasciculate, branching in mid- to just above the mid-flank into usually three secondary ribs. Intercalatory secondary ribs also present.

#### MEASUREMENTS

Maximum diameter 65mm; septate diameter 37mm; maximum whorl height 26mm, width 21mm; no of ribs c.27 primary, about 75 secondary.



FIG. 3. *Galbanites (Galbanites) galbanus* Buckman, 1922, internal mould showing detail of suture, QM F1270. At left are moulds of '*Leptomaria rugata*' (Benett, 1831) artificially cemented to the umbilicus.  $\times 1$ .

## REMARKS

The specimen of *G. fusciger* differs from *G. galbanus* by being smaller, more involute, flatter sided and having fasciculate ribs. The ribbing is more regularly prorsiradiate. Wimbledon (1974: 72) believed that *G. fusciger* represented the inner/juvenile whorls of *Briarites polymeles* Buckman or a closely related species.

## Class GASTROPODA

Family PLEUROTOMARIIDAE Swainson,  
1844

*Leptomaria* Eudes-Deslongchamps, 1864

*Type species. Pleurotomaria amoena* Eudes-Deslongchamps, 1849, Bajocian, Middle Jurassic, France.

'*Leptomaria*' *rugata* (Benett, 1831)  
(Figs 1, 3) (Fig. 1, centre; Fig. 3, left)

- 1831 *Trochus rugatus* Benett, p.6, pl.16, upper right.  
1888 *Pleurotomaria rugata* Benett; Damon, pl.8, fig. 6.  
1909 *Leptomaria* (?) sp.; Etheridge, p.239, pl.68.  
1927 *Leptomaria* (?) sp.; Whitehouse, p.111.  
1946 *Leptomaria* (?) sp.; Whitehouse, p.3.  
1989 *Trochus rugatus* Benett; Spamer, Bogan & Torrens, p. 141 [q.v. for further synonymy].

## MATERIAL EXAMINED

SYNTYPE: Original of Benett (1831: pl.16) upper right figure, Academy of Natural Science, Philadelphia, 65710 (B.C. 506), fide Spamer et al. (1989), Portland Beds, Tisbury, Wiltshire.

OTHER MATERIAL: Four specimens: QM F21078-21081, artificially cemented to the umbilicus of QM F1270.

## REMARKS

The smooth internal moulds have the apices broken off, but would have had a blunt apical angle; there are traces of a weak shoulder. The preservation is typical of '*L. rugata*' in the Portland Beds of England.

## CONCLUSIONS

The two ammonites, reported to be from the Early Cretaceous of Victoria Downs, Queensland, formerly attributed to Hauterivian *Simbirskites* (Whitehouse, 1926, 1927, 1946), are confirmed, along with associated bivalves and gastropods, as English, Late Jurassic, Portland

Stone forms. *Galbanites* (*Galbanites*) *galbanus* and *G. (G.) fusciger* suggest Portlandian/Tithonian faunas 3/4, the *okusensis/kerberus* zones of Wimbledon & Cope (1978) and Cope et al. (1980). The Cockly Bed of the former Okus Quarry in Swindon, Wiltshire, is probably the most likely original site, but is not proven. The gastropod '*Leptomaria*' *rugata* and the bivalves, including *Laevitrigonia damoniana* and oysters associated with the ammonites are also common in the Cockly Bed. The record of *Simbirskites* from Australia should now be deleted. The provenance of other material of the Hurst/Hunter bequest should be treated with caution.

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## NEW INFORMATION ON THE AUSTRALIAN SMALL BITTACIDS (MECOPTERA)

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Lambkin, K.J. 1993 06 30: New information on the Australian small bittacids (Mecoptera). *Memoirs of the Queensland Museum* 33(1):253-257. Brisbane. ISSN 0079-8835.

The unrecorded male and additional females of the small and little known scorpion-fly *Symbittacus scitulus* Byers have been found at three north Queensland montane rainforest localities. The male terminalia are similar to those of *Edriobittacus* Byers. New localities for the other small Australian bittacids show that *Austrobittacus anomalus* Riek occurs in the coastal zone between Bundaberg and Rockhampton, *Tynthobittacus macalpinei* Snithers extends into south-east Queensland, and *Edriobittacus microcercus* (Gerstaecker) is widely distributed between Bundaberg and Cairns. □ *Mecoptera, Bittacidae, Edriobittacus, Tynthobittacus, Austrobittacus, scorpion-fly, rainforest, Queensland, new records.*

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The Australian bittacid fauna comprises 6 genera. The monotypic *Austrobittacus* Riek, *Edriobittacus* Byers, *Symbittacus* Byers and *Tynthobittacus* Snithers are small and delicate forms, which have  $AA_{3+4}$  (=1A of other notations) of the hindwing much reduced. *Bittacus* Latreille (1 species) and *Harpobittacus* Gerstaecker (9 nominal species) are large and robust scorpionflies with  $AA_{3+4}$  of the hind wing well developed. Byers (1986) provided a key to all genera except *Bittacus*, which was differentiated by Lambkin (1988).

*Symbittacus* was erected by Byers (1986) for *S. scitulus* Byers, which was based on one female from rainforest of Bellenden-Ker Range, north Queensland. Since then, further collecting by G.B. Monteith and colleagues in montane rainforest south of Bellenden-Ker has brought to light a further five specimens, including the first male. An examination of the collections of the Australian National Insect Collection, Canberra (ANIC) has also revealed a female specimen from another north Queensland rainforest locality. Herein I record this new material and describe the male. As well, new diagnostic characters and new localities are given for *Austrobittacus*, *Edriobittacus* and *Tynthobittacus*. No new localities have been published for these taxa since their original descriptions or since Riek (1954). Full reference lists for each have recently been given by Smithers (1987) and are not repeated here.

All measurements are in millimetres. Other abbreviations used are as follows: ICZN, International Code of Zoological Nomenclature; KJL, author's collection (to be deposited in Queensland Museum); LFW, fore wing length; MV, Museum of Victoria, Melbourne; QM, Queensland Museum, Brisbane; UQ, The University of

Queensland Insect Collection, Department of Entomology, University of Queensland.

### *Symbittacus scitulus* Byers (Figs 1A-C, 2)

*Symbittacus scitulus* Byers, 1986, pp. 166-168, figs 1-6.

#### MATERIAL EXAMINED

QUEENSLAND: QM: 1♂, 1♀ (both teneral), Cardwell Range, Upper Broadwater Ck valley, 700-800m, RF [rainforest], 17-21.iii.1986, 3♀♀, Kirrama Range, Douglas Ck road, 800m, 9-12.xii.1986, all G.Monteith, G.Thompson and S.Hamlet. ANIC: 1♀, Davies Ck, 20km E by S Mareeba, 20.xi.1981, D.H.Colless, Malaise trap

#### LFW

♂ 14.9, ♀♀ 14.1-14.6 (holotype recorded by Byers (1986) as 14.1).

#### MALE TERMINALIA (Fig. 1A-C)

Epiandrium short, plate-like, articulated on the anterodorsal corners of sternum 9; in lateral view (Fig. 1A) narrow, arched dorsally at c.  $\frac{2}{3}$  length; in dorsal view (Fig. 1B) posterior margin broadly incised to c.  $\frac{2}{3}$  length, resultant lobate paired lateral regions each with 5 short black spines medioapically. Posterior margin of sternum 9 with a few long setae dorsally. Basistyles completely fused medially; in lateral view ventro-posterior margin evenly curved; dististyle-bearing lobes strongly produced. Dististyle (Fig. 1C) small and simple, with strongly sclerotised glabrous apical knob; distinct 'stylocavemula' (Tjeder 1970) basally. Aedeagus of moderate length, recurved, without a terminal